

On Guard for Endangered Plants

by Neal Snyder and
Steve Lai

With enough imagination, the flowers of Hawaii's 'ohai bush (*Sesbania tomentosa*), an endangered plant in the pea family (Fabaceae), can be said to resemble tiny hermit crabs in scarlet Bonaparte hats. Alien or non-native plant species threaten to engulf the 'ohai, which is now practically non-existent in the wild. But it has found a strong ally in the Hawaii National Guard.

The Guard carries out realistic military training on 34 sites throughout the Hawaiian islands, while also promoting sustainable practices in land use and protecting a wide variety of plant and animal species. Training lands support 33 rare, threatened, or endangered species and five distinct habitat types, ranging from lava flows to old-growth rain forest. They are among Hawaii's richest lands in terms of biodiversity and present some of the most challenging endangered species problems in the United States.

The Guard's Kanaio Training Area is home to one of the last two wild 'ohai populations on the island of Maui. Only 13 individual plants are known to exist in the wild at the training area, according to Trae Menard, the Hawaii Guard's field ecologist. His group is working to protect those plants and to regenerate the original population by cultivating more than 1,200 for planting into the wild.

The Guard has also installed 2 miles (3.2 kilometers) of fence to prevent feral goats and deer from feeding on the plant, and has set out rodent traps around the plants to prevent rats and mice from eating the 'ohai fruit and seeds. Through a selective weeding campaign, aggressive species that compete with the 'ohai are removed, while those that provide shade and help retain soil moisture can remain.



Sesbania tomentosa

Photo by Greg Koob

Since 1998, Menard's team has made significant progress towards restoring 25 of Hawaii's rare or endangered plant species on four different islands. Most of the endangered plants that Menard works with are found in high-elevation dry forests. "Everyone talks about saving the rain forests," Menard says, but he explains that dry forests in Hawaii are "among the most endangered ecosystems in the world." One threat comes from invasive alien grasses, such as fountain grass, that are highly flammable. Once a stand of this non-native grass catch fire, it "wipes out the ecosystem."

In 1999, the Hawaii Guard's environmental office completed the propagation phase of its native plants management program. Collecting seeds from reproducing wild individuals, enhancing germination, and rearing seedlings for out-planting are part of a strategy to increase genetic diversity and maintain a

large seed source within greenhouse nursery reserves.

Menard's team hopes to finish an out-planting and re-seeding program in 2002. Already, 850 individuals of native and endangered species have been out-planted, and about 3,500 native and endangered plants have been reared at the Kanaio Training Area.

Neal Snyder is a Senior Planning Specialist (J.M. Waller Associates, Inc.) at the U.S. Army Environmental Center (USAEC) in Maryland. Captain Steve Lai is an Environmental Awareness Manager at Fort Ruger, Hawaii.